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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,369	07/03/2001	Steven A. Van Slyke	82865RLO	1085

7590

12/31/2003

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EXAMINER

CLEVELAND, MICHAEL B

ART UNIT PAPER NUMBER

1762

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/898,369

Applicant(s)

VAN SLYKE ET AL.

Examiner

Michael Cleveland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “non-sublimable” in claims 11, 19, 25, and 32 is used by the claim to include sublimable species such as carbon, silicon, metals, alloys, metal oxides, and silica (as explicitly claimed, for example, in claim 14). The term is indefinite because the specification does not clearly redefine the term “non-sublimable” as including compounds that are capable of sublimation. Based on the specification, Applicant appears to intend that the “non-sublimable” materials do not sublime at the temperatures at which the organic “sublimable” materials do. For the purposes of applying art, the term has been treated as at least inclusive of any member of the specifically claimed “non-sublimable” species.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1, 4-6, 11, 14, and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kojima et al. (U.S. Patent 5,364,253, hereafter '253) (Ando (U.S. Patent 4,586,173) is cited as evidence regarding claim 11).

Claims 1, 11, and 14: '253 teaches a method of handling organic material adaptable for making a layer on a structure in a speaker. Speakers may be used with devices such as televisions or computer screens, which may be organic light-emitting devices. Therefore, the organic material is adaptable for such use. The method of handling the material comprises:

- a) providing the organic material (an epoxy resin) in powder form (col. 2, lines 1-4 and col. 11, lines 42-44);
- b) providing iron metal or iron-cobalt alloy in a powder form (col. 2, lines 1-4, col. 13, lines 35-41) (Applicant classifies metals and alloys as "non-sublimable"; see, e.g., claim 14);
- c) forming a mixture of the epoxy resin and iron powder to form powder material Cm (col. 13, lines 35-41);
- d) placing the powder Cm into a die and applying sufficient pressure to cause the organic material to agglomerate into a solid pellet (col. 13, lines 41-62); and
- e) removing the pellet from the die (col. 13, lines 62-67).

Claims 4 and 16: The product has at least one convex surface (e.g., the surface of the top half of the pellet shown in Fig. 3), which must inherently be produced by a concave surface of the die. (See Fig. 1.)

Claims 5 and 17: The die may be heated to 250 °C before and during compression (col. 13, lines 42-62).

Claims 6 and 18: The dies may be cooled to room temperature (approx. 25 °C) before removing the pellet from the die (col. 13, lines 62-66).

Claim 11: Epoxy resins are sublimable. (See '173, col. 4, lines 48-52 as evidence).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-2, 7-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwok et al. (U.S. Publication 2002/0024297, hereafter '297) in view of Jones (U.S. Patent 4,260,349, hereafter '349) and Nagashima et al. (U.S. Patent 6,101,316, hereafter '316).

'297 teaches a method of making an organic layer from an organic material on a structure which will form part of an organic light-emitting device [0005], comprising the steps of:

b) pressing a pellet of an organic light-emitting material (Alq) [0020];

d) placing the pellet of an organic material into a deposition chamber (1) [0019-0020].

The deposition may be by thermal evaporation (i.e., a method of thermal physical vapor deposition) [0006];

e) positioning the structure (a substrate) in the chamber and in a spaced relationship with the source (6,7) ([0019]; Fig. 1);

f) evacuating the chamber to a reduced pressure [0019].

'297 teaches that the pellet is a pressed pellet, but does not explicitly teach that the pellet is made by providing the organic material as a powder, placing the powder in a die and applying sufficient pressure to agglomerate it, and removing the pellet from the die. However, the examiner takes official notice that it is notoriously well known to produce a pressed pellet using a pellet press. See, for example, '349, which teaches that pellets may be made by providing a powder (col. 3, lines 53-68), placing the powder in a die (32) and applying pressure sufficient to agglomerate the powder into a pellet (col. 4, lines 1-14), and removing the pellet from the dies (col. 4, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the particular pressed pellet of '297 using a conventional pellet pressing method, such as that of '349, because '349 teaches that its pellet pressing method is an operative method for producing pressed pellet. The selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07.

'297 teaches thermal evaporation of Alq, but does not explicitly teach the thermal evaporation is sublimation. However, the examiner takes official notice that it is notoriously

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well known within the art of organic EL devices to form evaporated layers of Alq by sublimation. See, for example, '316, col. 10, lines 23-46, which teaches that Alq may be evaporated by sublimation. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have evaporated the Alq of '297 using a conventional Alq evaporation method, such as sublimation, because '316 teaches that sublimation is an operative method for thermally evaporating Alq. The selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07.

Claim 10: '297 teaches that more than one target may be provided [0019], and that the targets may be pellets [0020].

8. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwok '297 in view of Jones '349 and Nagashima '316 as applied to claims 1 and 7 above, and further in view of Codama et al. (U.S. Patent 6,114,805, hereafter '805).

'297, '349, and '316 are discussed above. They do not teach providing a dopant material in the pellet. However, '805 teaches the provision of mixed hole-transporting, light-emitting, and electron-transporting layers for organic EL devices (col. 11, lines 26-34). The materials may be mixed and provided in the same evaporation boat (col. 12, lines 20-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the pellet evaporation source of '297 using Alq and another material (i.e., a dopant) as described by '805 because '805 teaches that mixed layers are of interest in forming light-emitting devices and with a reasonable expectation of success because '805 teaches that multiple species may be combined before evaporation from the same boat.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima '253. Kojima '253 is discussed above, but is silent as to the relative concentrations of metal or alloy powder and binder, and therefore does not teach a weight percent of 50-99% organic powder to 1-50% of inorganic powder. However, it has long been held that differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art

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unless there is evidence indicating that the concentration or temperature is critical. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have chosen an operative amount of powder and binder through routine experimentation.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 6,649,436, hereafter '436. Although the conflicting claims are not identical, they are not patentably distinct from each other because they recite different combinations and permutations of claim limitations.

Claim 1 of '436 is more specific than instant claims 1 and 11 because it recites the steps of

- a) providing a sublimable organic material in powder form (step a)
- b) providing a thermally conductive and non-sublimable material in powder form (step b),
- c) mixing the powders (step c)
- d) placing the mixture in a die and applying sufficient pressure to agglomerate the powder into a pellet (steps d and e), and
- e) removing the pellet.

Likewise, claim 2 of '436 is more specific than instant claims 7 and 19 because it recites the further steps of

- f) placing the pellet into a thermal physical vapor deposition chamber (steps a and d),

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- g) positioning the structure in the chamber and in spaced relationship to the source (step b),
- h) evacuating the chamber to a reduced pressure (step c), and
- i) applying heat to cause the pellet to sublime and form a layer of the organic material on the structure (step d).

In analogous fashion, patented claims 10 and 19 are narrower than instant claims 25 and 32, respectively.

Instant claims 2, 8, 12, 20, 26, 33: See patented claim 4.

Instant claims 3, 9, 13, 21, 34: See patented claim 5.

Instant claims 4, 16, 29: See patented claim 14.

Instant claims 5, 17, 30: See patented claim 15.

Instant claims 6, 18, 31: See patented claim 16.

Instant claims 10, 24, 36: See patented claim 3.

Instant claims 14, 22, 27, 35: See patented claim 1, which requires that the non-sublimable material be a ceramic. Metal oxides are ceramic.

Instant claim 15, 23, 28: See patented claim 13.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cleveland whose telephone number is (571) 272-1418. The examiner can normally be reached on Tuesday-Friday and alternate Mon, 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Michael Cleveland
Patent Examiner
December 11, 2003